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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,760	04/13/2006	Markus Klumpe	289246US0PCT	5123
22850 7590 12/09/2010 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER KEYS, ROSALYND ANN				
ART UNIT		PAPER NUMBER		
1621				
NOTIFICATION DATE		DELIVERY MODE		
12/09/2010		ELECTRONIC		

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/575,760  
Filing Date: April 13, 2006  
Appellant(s): KLUMPE ET AL.

Jay E. Rowe, Jr., Ph.D.  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed October 8, 2010 appealing from the Office action mailed March 23, 2010.

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims 1, 2, and 5-10

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

WO 94/11331	DAHLGREN-1	5-1994
WO 94/11330	DAHLGREN-2	5-1994
WO 01/04183 A1	CLEMENT	1-2001
4,969,953	MIYAZAWA	11-1990
5,434,313	HARRISON	7-1995

BASF Corporation, BASF's product portfolio of oxygenated solvents, 1998-2007, pp. 1-3, obtained from <http://www2.basf.us/oxoproducts/products.htm> on November 30, 2010.

BASF Corporation, Technical Data Sheet for Propylheptanol, February 2007, p. 1, obtained from [http://www2.basf.us/oxoproducts/pdfs/TDS\\_Propylheptanol.pdf](http://www2.basf.us/oxoproducts/pdfs/TDS_Propylheptanol.pdf) on November 30, 2010.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 1, 2 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlgren et al.-1 (WO 94/11331) in view of Dahlgren et al.-2 (WO 94/11330) and further in view of Clement et al. (WO 01/04183 A1).

Dahlgren et al. -1 teach an alkoxyate mixture having the formula  $C_5H_{11}CH(C_3H_7)CH_2O(C_2H_4O)_p(B)_rH$  wherein B is an alkyleneoxy group having 3-4 carbon atoms, p is 1-10 and r is 1-6 (see entire disclosure, in particular pages 1-3). The different alkyleneoxy groups may be added randomly or in block (see page 2, lines 5-7). The alkoxyates are prepared by reaction of 2-propyl heptanol with an alkylene oxide using a conventional catalyst (see page 2, lines 22-35). The alkoxyates have use as a surface-active component in detergent compositions (see page 1, lines 3-33).

The alkoxyate mixture of Dahlgren et al.-1 differs from the instant alkoxyate mixture in that the alkoxyate mixture of the instant invention requires the  $C_5H_{11}$  to be present with a specific structure and in specific proportions. One proportion requires  $C_5H_{11}$  to be present as

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n-C<sub>5</sub>H<sub>11</sub> with the other portion being present as C<sub>2</sub>H<sub>5</sub>CH(CH<sub>3</sub>)CH<sub>2</sub> and/or CH<sub>3</sub>CH(CH<sub>3</sub>)CH<sub>2</sub>CH<sub>2</sub>.

It is well known that C<sub>5</sub>H<sub>11</sub> usually occurs or is formed as a mixture of isomers. Thus, one having ordinary skill in the art at the time the invention was made would have a reasonable expectation that the C<sub>5</sub>H<sub>11</sub> portion of the compounds of Dahlgren et al. -1 is also present as a mixture of isomers. Therefore, the mere selection of specific C<sub>5</sub>H<sub>11</sub> isomers is obvious absent a showing of unexpected results.

The alkoxylate mixture of Dahlgren et al. -1 differs from the instant alkoxylate mixture in that Dahlgren et al. -1 do not teach that the ethyleneoxy groups and the propyleneoxy groups have to be arranged in blocks in a specific sequence. However, Dahlgren et al. -1 suggest such an arrangement, since Dahlgren et al. -1 teach that ethyleneoxy groups and the propyleneoxy groups can be arranged in block (see page 2, lines 5-7).

Dahlgren et al. -2 teach an alkoxylate mixture similar to the alkoxylate mixture of Dahlgren et al. -1 (see entire disclosure, in particular page 1, line 25 to page 2, line 10). Dahlgren et al. -2 teach that the hydrophobic properties of the hydrocarbon chain have been enhanced by adding hydrophobic alkyleneoxy groups closest to the alcohol.

One having ordinary skill in the art at the time the invention was made would have been motivated to arrange the ethyleneoxy groups and the propyleneoxy groups of the alkoxylate mixture of Dahlgren et al. -1 in the manner taught by Dahlgren et al. -2, in order to enhance its hydrophobic properties.

The process of making the alkoxylate mixture of Dahlgren et al. -1 differs from the instant process in that Dahlgren et al. -1 teach utilizing conventional catalysts and not a dmc catalyst.

Clement et al. teach that a dmc catalyst can be used in place of a conventional catalyst for polymerization of alkylene oxides allowing one to obtain the polyethoxylated compounds in good yield (see entire disclosure, in particular pages 1-3).

One having ordinary skill in the art at the time the invention was made would have been motivated to utilize a dmc catalyst, as taught by Clement et al., in the process of Dahlgren et al.-1 as it would allow one to obtain the alkoxyate mixture in good yield.

#### **(10) Response to Argument**

The Appellants submit (see page 5 of the Appeal Brief) that the Examiners assertion that  $C_5H_{11}$  usually occurs or is formed as a mixture of isomers is erroneous and technically unsound logic in view of the Wikipedia article cited by Appellants (it is noted that this article was first cited by the Appellants in the Pre-Appeal Brief Request For Review on July 22, 2010). The Appellants provide further submissions on pages 6 and 7 of the Appeal Brief as to why the technology clearly shows that Dahlgren does not describe or intend an isomeric mixture, let alone, the specific isomer mixture according to the invention. Such submissions include that one of ordinary skill would look to description of the method of synthesis to ascertain the  $C_5H_{11}$ -structure if it is not fully described and that by describing 2-propyl heptanol as a Guerbet alcohol, both Dahlgren references clearly indicate a straight chain structure and therefore, the isomeric mixture alleged by the Examiner cannot be inherent.

This submission should not be persuasive because if as the Appellants submit one of ordinary skill would look to the description of the method of synthesis to ascertain the  $C_5H_{11}$ -structure if it is not fully described then based upon known methods of preparing 2-propyl heptanol (see for example US Patents 4,969,953; 5,434,313 and 7,173,138; first cited in the final rejection mailed March 23, 2010) as well as a technical description of 2-propylheptanol given by for example BASF (see BASF's product portfolio of oxygenated solvents and the

Technical Data Sheet for Propylheptanol, first cited herein) the ordinary artisan would expect the 2-propylheptanol of Dahlgren-1 and Dahlgren-2 to be present as an isomeric mixture, in particular the isomeric mixture as claimed (see for example column 5 of 4,969,953; column 10, line 46 to column 11, line 3 of 5,434,313; column 38, line 54 to column 39, line 7 of 7,173,138; and the product specification section of BASF's Technical Data Sheet, which is referenced by BASF on page 2 of BASF's product portfolio of oxygenated solvents). Thus, contrary to the submission by Appellants that one of ordinary skill would recognize that the mechanism of the aldol condensation which occurs in the Guerbet reaction involves the chemical structure of carbons 1 and 2 of the alcohol and no chemical reaction of the carbons beyond carbons 1 and 2 of the chain, US Patents 4,969,953; 5,434,313 and 7,173,138 show that this is not the case. The aldol condensation reaction occurs on carbons beyond carbons 1 and 2 and in fact based upon the references cited above by the Examiner the skilled artisan would expect 2-propylheptanol to occur as an isomeric mixture and in the ratio as claimed.

The Appellants submit that claim 2 depends from claim 1 and further recites that C3H7 is n-C3H7 and that the specific isomer mixture recited in claim 1 is not disclosed or suggested by the cited references.

This submission should not be persuasive because the C3H7 of Dahlgren is not limited and thus could be either of its isomers n-propyl or isopropyl. The selection of which isomer is used would have been an obvious matter of operator choice, since Appellants have not disclosed that the use of n-propyl solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with C3H7 as n-propyl or isopropyl.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.



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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Rosalynd Keys/

Primary Examiner, Art Unit 1621

Conferees:

/Daniel M Sullivan/

Supervisory Patent Examiner, Art Unit 1621

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